

Medical Progress^{through} Technology

Volume 5, 1977/78

Editorial Board

Editors-in-Chief:

A. M. Albisser, Toronto · H. Hutten, Mainz
C. D. Ray, Minneapolis

Editors:

K. G. M. M. Alberti, Southampton · K. Atsumi, Tokyo
D. H. Bekkering, Utrecht · E. H. Frei, Rehovot
U. Gessner, St. Gallen · W. Giere, Frankfurt
S. E. Harrison, Philadelphia · D. W. Hill, London
J. A. Hopps, Ottawa · B. Horisberger, St. Gallen
R. Magnusson, Göteborg · O. Mayrhofer, Wien
J. D. Meindl, Stanford · M. Oshima, Tokyo
M. Schaldach, Erlangen · J. Torresani, Marseille

Assistant to the Editorial Board:

J. Hudson, Minneapolis



Springer International

The copyright for all languages and countries, including the right to reproduce by photographic or other means, is transferred to the publishers as soon as the manuscript is accepted and published by them.

The use of registered names, trade-marks etc. in this journal does not warrant the assumption that such names, as defined by the laws affecting protection of trade-marks etc., have been released for general use.

Springer-Verlag, Berlin • Heidelberg • New York

Printed in Germany

Typesetting by Elsner & Behrens GmbH, D-6836 Oftersheim, printed by Julius Beltz oHG, D-6944 Hemsbach

Copyright © by Springer-Verlag, Berlin, Heidelberg 1977/1978

Contents

- Albisser, A. M., Jackman, W. S., Ferguson, R., Bahoric, A., Goriya, Y.: A Portable Precision Pumping System for Chronic, Programmed Insulin Infusion 187
- Albisser, A. M., Leibel, B. S., Johnson, W., Denoga, A., Botz, C. K., Marliss, E. B.: An Improved Technique for the Rapid Continuous Measurement of Whole Blood Glucose, Suitable for Clinical Application in an Artificial Endocrine Pancreas 141
- Bardou, A., Levy, B., Birkui, P., Fustinoni, O., Lesigne, C., Saumont, R., Henzel, D.: Impedance Rheography: a New Method for Recording Spontaneous Arterial Section Variation 27
- Brockhurst, P. J., Svensson, N. L.: Design of Total Hip Prosthesis. The Femoral Stem 73
- Bruck, S. D.: Biological Evaluation of Biomaterials for Cardiovascular Applications: Some Current Results 51
- Cassot, F., Saadjian, A., Mc Kay, C.: Heat and Mass Transfer of a Thermal Indicator in Pulsatile Flow through the Cardio-Pulmonary System. I. Modelling 203
- Cassot, F., Saadjian, A., Mc Kay, C.: Heat and Mass Transfer of a Thermal Indicator in Pulsatile Flow through the Cardio-Pulmonary System. II. Identification of Cardiac Output 215
- Chang, S. K., Hum, O. S., Moscarello, M. A., Neumann, A. W., Zingg, W., Leutheusser, M. J., Rueggsegger, B.: Platelet Adhesion to Solid Surfaces. The Effects of Plasma Proteins and Substrate Wettability 57
- Clark, G. M., Black, R., Dewhurst, D. J., Forster, I. C., Patrick, J. F., Tong, Y. C.: A Multiple-Electrode Hearing Prosthesis for Cochlear Implantation in Deaf Patients 127
- Fischler, H., Behar, S., Neufeld, H. N.: Surveillance of Pacemaker Patients by an Automatic Pacemaker Function Analyzer 21
- Inamura, K., Hamada, M., Matsuoka, A., Umegaki, Y.: Design and Development of a Comprehensive Computer System for Radiotherapy Departments 195
- Just, H.: Coronary Arteriography. Current Technique and Standards of Equipment 119
- Kassam, M., Johnston, K. W., Cobbald, R. S. C.: An Automatic, Multi-Function Pressure Cuff Control Unit 157
- Kishon, Y., Neufeld, H. N.: Current Problems in Cardiology 13
- Krishna Murthy, T. G.: Instrumentation for Health Care in India: A Realistic Approach 35
- Long, D. M.: Uses of Percutaneous Electrical Stimulation of the Nervous System 47
- Mc Neice, G. M.: On the Mechanical Testing of Some Implants and Materials 67
- Meier, P. C., Ammann, D., Osswald, H. F., Simon, W.: Ion-Selective Electrodes in Clinical Chemistry 1
- Meric, Ph., Seylaz, J.: Radiation Scattering and the Determination of Regional Cerebral Blood Flow by Radioisotope Clearance 41
- Nickel, O., Schad, N.: Image Analysis of the Heart Action Recorded with a High Speed Multicrystal Gamma Camera 163
- Ohnsorge, J., Holm, R.: Surface Investigations of Oxide Layers on Cobalt-Chromium-Alloyed Orthopedic Implants Using ESCA Technique 171
- Rompelman, O., Coenen, A. J. R. M., Saat, R. G. M.: A Special-Purpose Computer for On-Line Statistical Analysis of the Heart Rate 149
- Thull, R.: The Long-Term Stability of Metallic Materials for Use in Joint Endoprostheses 103
- Voigt, E.: Enlarged Acid-Base and Blood Gas Calculations by Electronical Data Computing in the Blood Gas Laboratory 179
- Wevers, H. W.: The Specification and Design of a Substitute Medial Collateral Ligament 113